



Fourth Grade NC Essential Standards – Science

| Physical Science | | | |
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| Forces and Motion | | Matter: Properties and Change | |
| 4.P.1 Explain how various forces affect the motion of an object. | 4.P.1.1 Explain how magnets interact with all things made of iron and with other magnets to produce motion without touching them. | 4.P.2 Understand the composition and properties of matter before and after they undergo a change or interaction. | 4.P.2.1 Compare the physical properties of samples of matter (strength, hardness, flexibility, ability to conduct heat, ability to conduct electricity, ability to be attracted by magnets, reactions to water and fire). |
| | 4.P.1.2 Explain how electrically charged objects push or pull on other electrically charged objects and produce motion. | | 4.P.2.2 Explain how minerals are identified using tests for the physical properties of hardness, color, luster, cleavage and streak. |
| | | | 4.P.2.3 Classify rocks as metamorphic, sedimentary or igneous based on their composition, how they are formed and the processes that create them. |
| Energy: Conservation and Transfer | | | |
| 4.P.3 Recognize that energy takes various forms that may be grouped based on their interaction with matter. | 4.P.3.1 Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change. | | |
| | 4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed. | | |
| Earth Science | | | |
| Earth in the Universe | | Earth History | |
| 4.E.1 Explain the causes of day and night and phases of the moon. | 4.E.1.1 Explain the cause of day and night based on the rotation of Earth on its axis. | 4.E.2 Understand the use of fossils and changes in the surface of the earth as evidence of the history of Earth and its changing life forms. | 4.E.2.1 Compare fossils (including molds, casts, and preserved parts of plants and animals) to one another and to living organisms. |
| | 4.E.1.2 Explain the monthly changes in the appearance of the moon, based on the moon’s orbit around the Earth. | | 4.E.2.2 Infer ideas about Earth’s early environments from fossils of plants and animals that lived long ago. |
| | | | 4.E.2.3 Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes. |

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| Life Science | | | |
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| Ecosystems | | Molecular Biology | |
| 4.L.1 Understand the effects of environmental changes, adaptations and behaviors that enable animals (including humans) to survive in changing habitats. | 4.L.1.1 Give examples of changes in an organism’s environment that are beneficial to it and some that are harmful. | 4.L.2 Understand food and the benefits of vitamins, minerals and exercise. | 4.L.2.1 Classify substances as food or non-food items based on their ability to provide energy and materials for survival, growth and repair of the body. |
| | 4.L.1.2 Explain how animals meet their needs by using behaviors in response to information received from the environment. | | 4.L.2.2 Explain the role of vitamins, minerals and exercise in maintaining a healthy body. |
| | 4.L.1.3 Explain how humans can adapt their behavior to live in changing habitats (e.g., recycling wastes, establishing rain gardens, planting trees and shrubs to prevent flooding and erosion). | | |
| | 4.L.1.4 Explain how differences among animals of the same population sometimes give individuals an advantage in surviving and reproducing in changing habitats. | | |

